

541,449

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 July 2004 (22.07.2004)

PCT

(10) International Publication Number
WO 2004/061469 A1

(51) International Patent Classification⁷: **G01R 33/3415**

(72) Inventors; and

(21) International Application Number:
PCT/IB2003/006160

(75) Inventors/Applicants (for US only): **GRÄSSLIN, Ingmar** [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). **LEUS-SLER, Christoph, Günther** [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

(22) International Filing Date:
18 December 2003 (18.12.2003)

(74) Agent: **MEYER, Michael**; Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

(25) Filing Language: English

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:
03100012.8 7 January 2003 (07.01.2003) EP

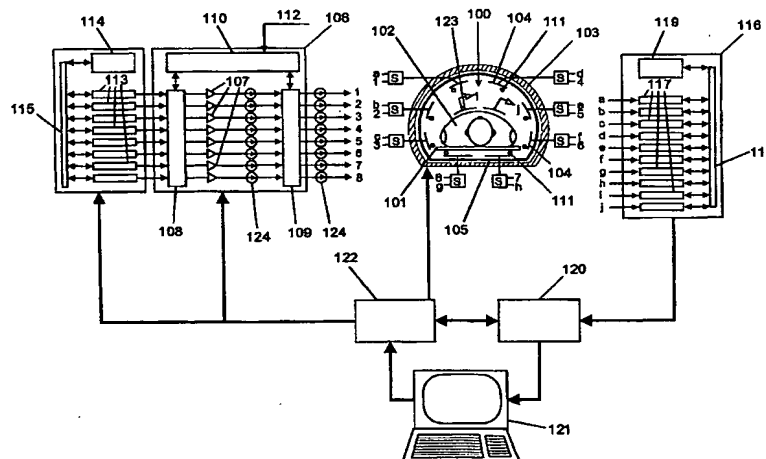
(71) Applicant (for DE only): **PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH** [DE/DE]; Stein-damm 94, 20099 Hamburg (DE).

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except DE, US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

[Continued on next page]

(54) Title: HIGH-FREQUENCY SYSTEM FOR AN MR APPARATUS WITH MULTIPLE TRANSMIT CHANNELS



(57) Abstract: The invention relates to a high-frequency system for an MR apparatus with a high-frequency coil arrangement comprising a plurality of resonator elements (104), which is connected to a transmit unit (106), where a respective transmit channel (1-8) of the transmit unit (106) is assigned to the resonator elements (104). In order to provide a high-frequency system of this kind at low cost, by means of which a high frequency field can be generated in an examination volume (100) with a field distribution that can be preselected flexibly and variably, the invention proposes that the transmit unit (106) is equipped with a plurality of high-frequency amplifiers (107), the inputs of which can receive low-power transmit signals via a first controllable multiplexer/distributor network (108), in which the output signals of the high-frequency amplifiers (107) can be distributed over the transmit channels (1-8) via a second controllable multiplexer/distributor network (109). In addition, the invention relates to an MR apparatus with a high-frequency system of this kind.

WO 2004/061469 A1



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.